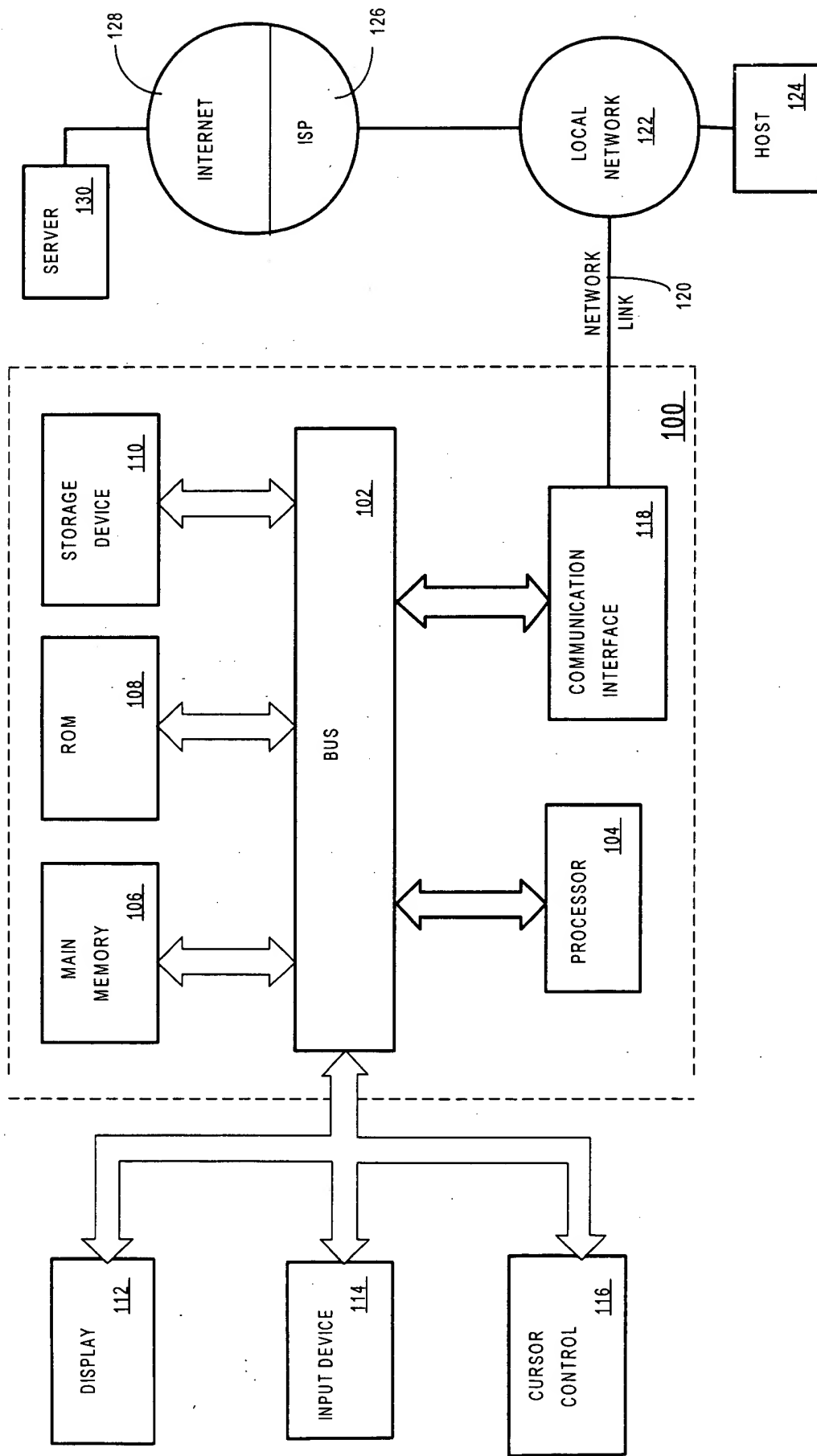


Figure 1



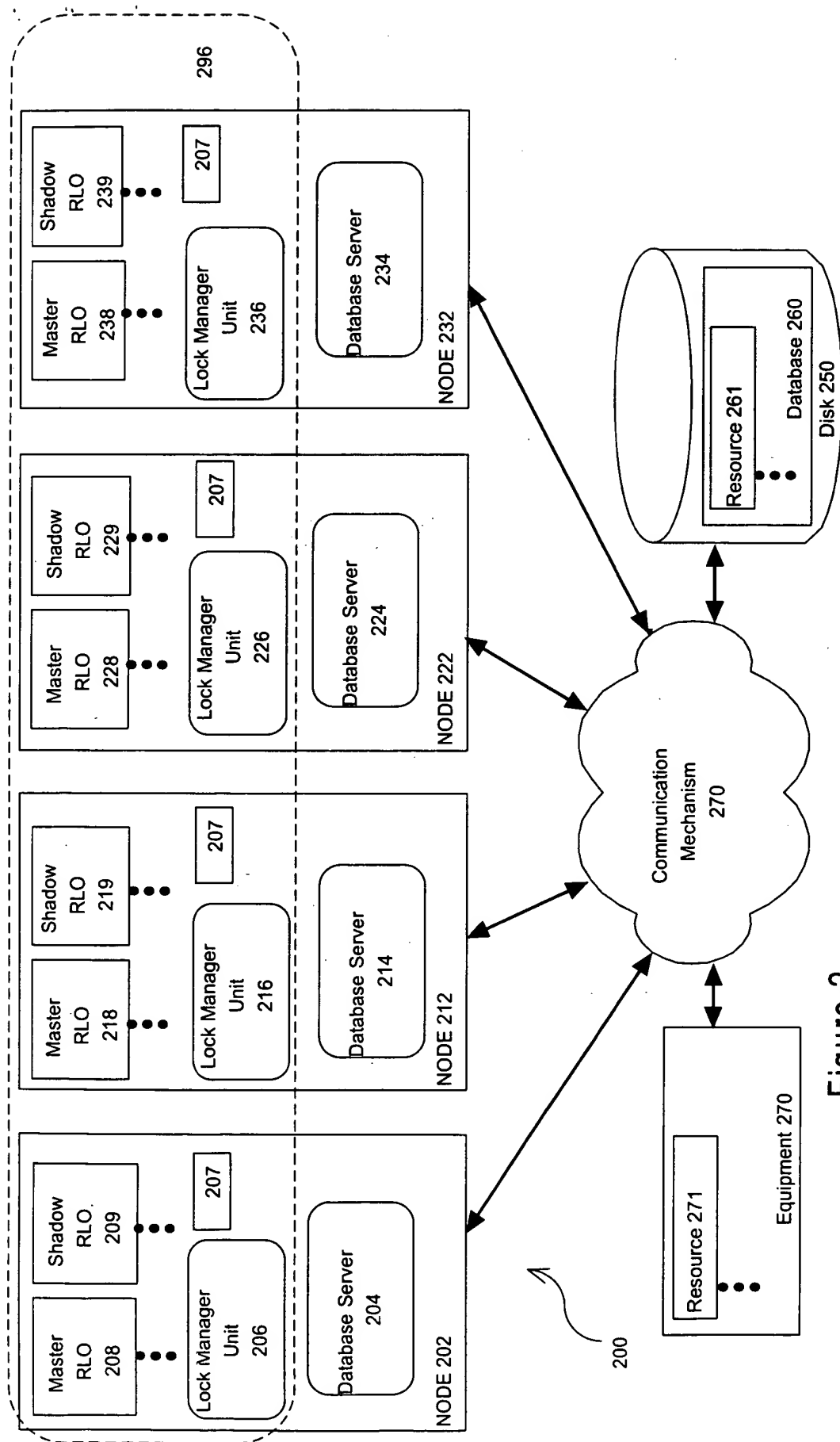


Figure 2

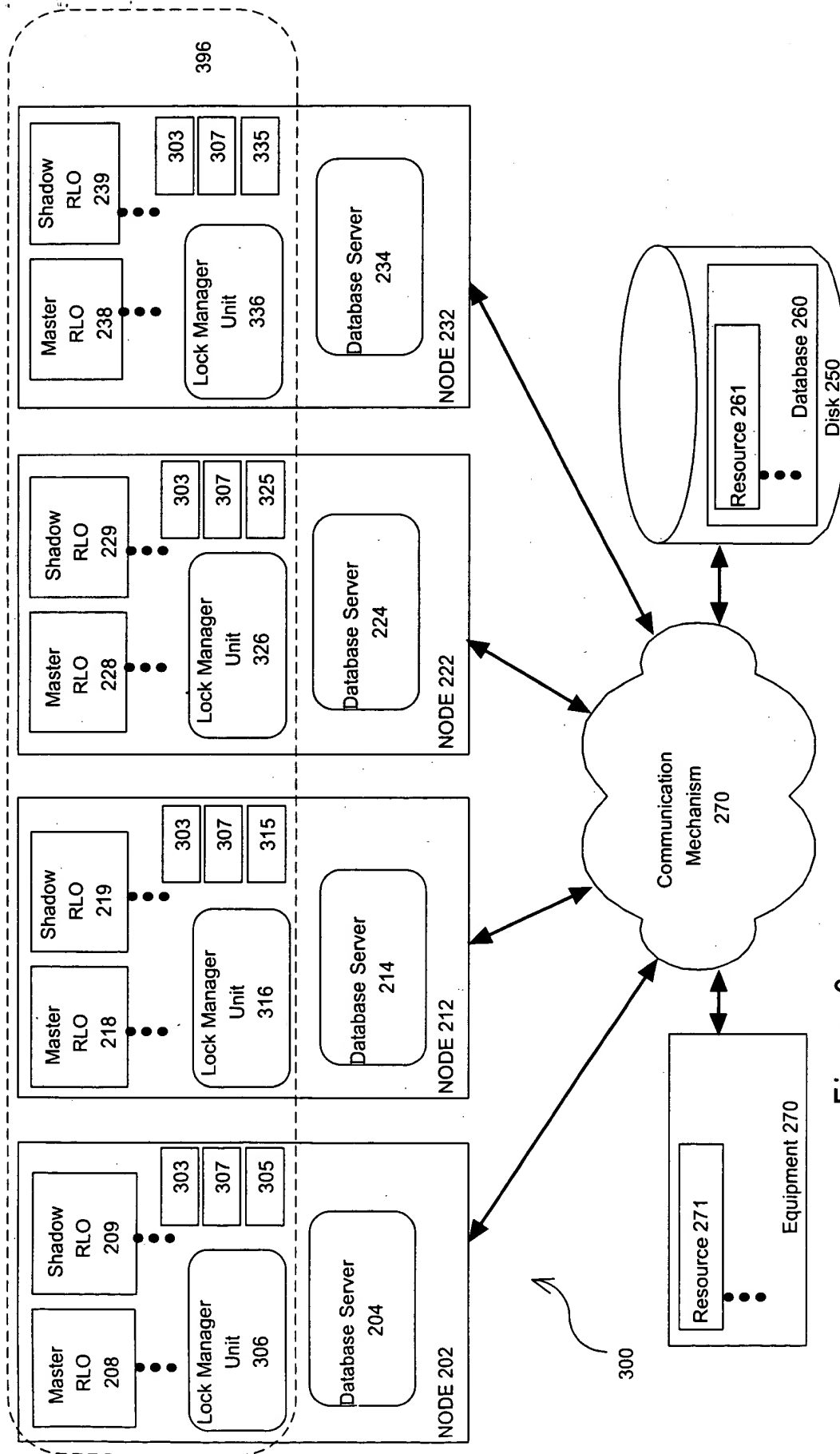


Figure 3

FIG. 4A

| | | | | |
|-----|------------------|-------------|-----|-----|
| 303 | | | 492 | 494 |
| | | | ↓ | ↓ |
| | Hash Value Range | Master Node | | |
| | 0-9 | 202 | | 401 |
| | 10-19 | 212 | | 402 |
| | 20-29 | 222 | | 403 |
| | 30-39 | 232 | | 404 |
| | 40-49 | 202 | | 405 |
| | 50-59 | 212 | | 406 |
| | 60-69 | 222 | | 407 |
| | 70-79 | 232 | | 408 |
| | 80-89 | 202 | | 409 |
| | 90-99 | 212 | | 410 |
| | 100-109 | 222 | | 411 |
| | 110-119 | 232 | | 412 |
| | ⋮ | ⋮ | | |

Figure 4A

FIG. 4B is a diagram of a data structure 400, such as a hash table, according to one embodiment. The data structure 400 includes a plurality of entries 410, 420, 430, and 440. Each entry 410, 420, 430, and 440 includes a master node 411, 421, 431, and 441, respectively, and a hash value range 412, 422, 432, and 442, respectively. The master nodes 411, 421, 431, and 441 are associated with a master node identifier 401, and the hash value ranges 412, 422, 432, and 442 are associated with a hash value range identifier 402. The master node identifier 401 and the hash value range identifier 402 are used to identify the entries 410, 420, 430, and 440.

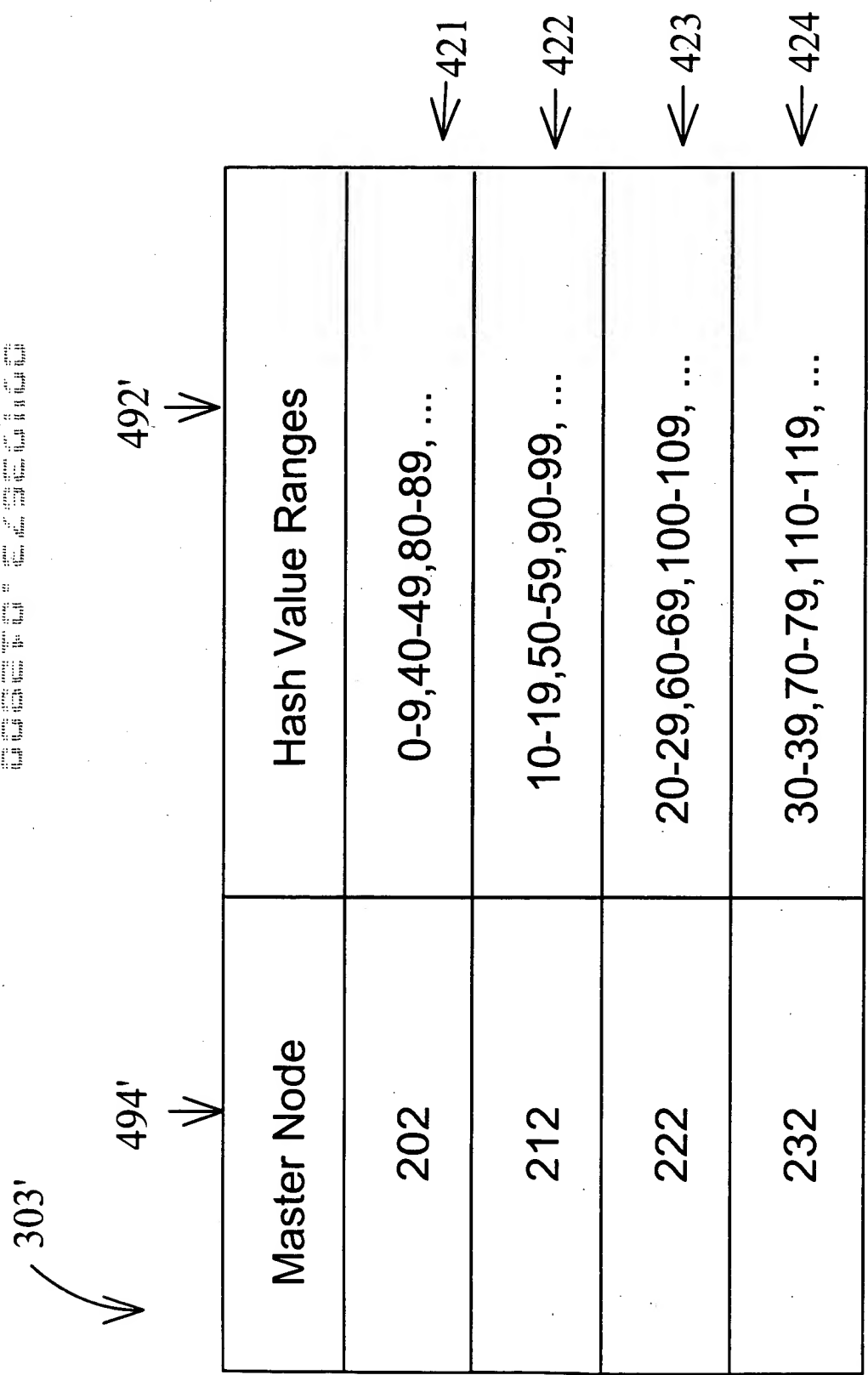
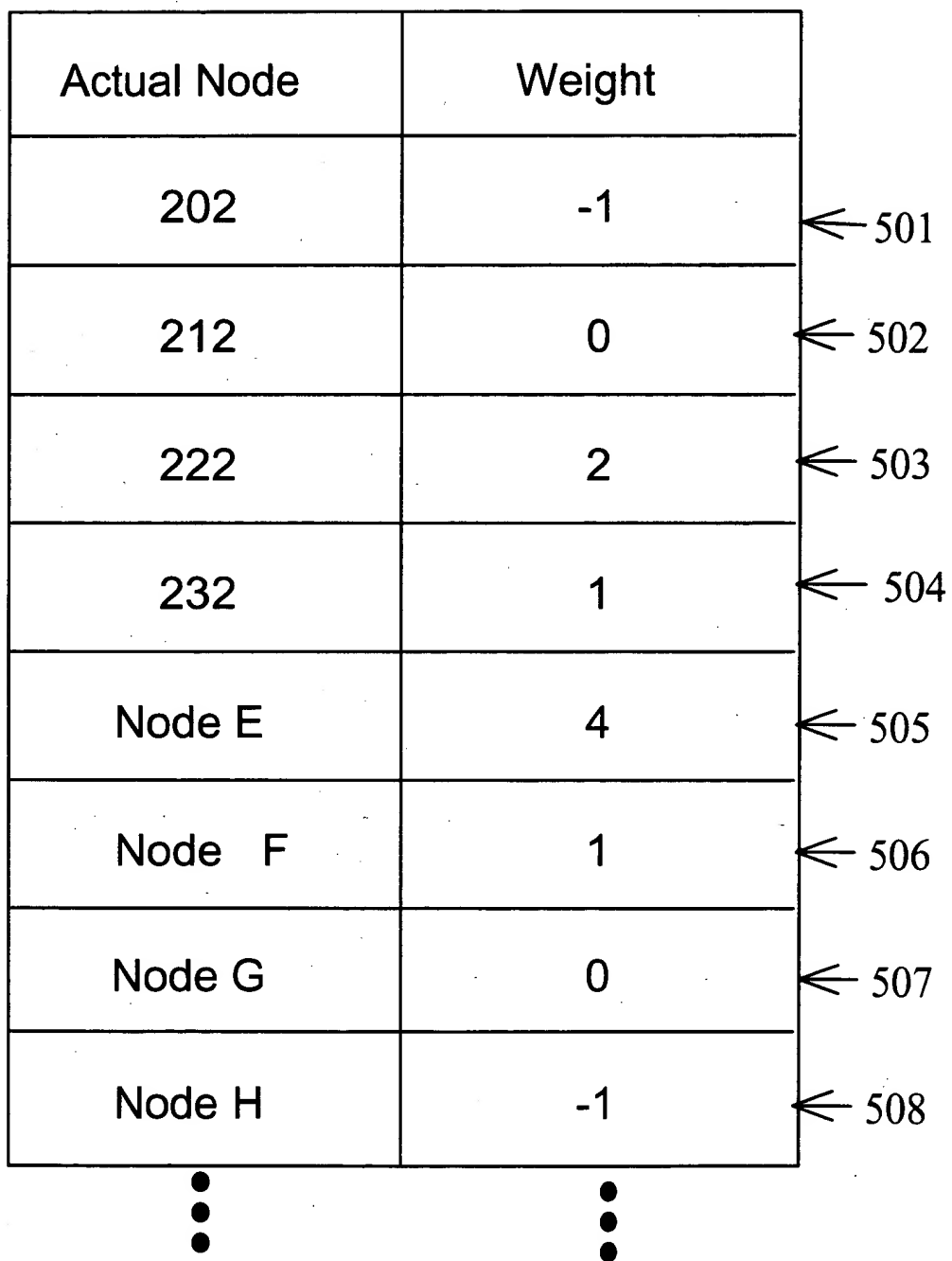


Figure 4B

307

592

594



| Actual Node | Weight |
|-------------|--------|
| 202 | -1 |
| 212 | 0 |
| 222 | 2 |
| 232 | 1 |
| Node E | 4 |
| Node F | 1 |
| Node G | 0 |
| Node H | -1 |

Figure 5

| Hash Value Range | Node 202 | Node 212 | Node 222 | ... |
|------------------|----------|----------|----------|-------|
| 0-9 | 10 | 10 | 0 | ← 601 |
| 10-19 | 0 | 1 | 5 | ← 602 |
| 20-29 | 2 | 5 | 1 | ← 603 |
| 30-39 | 100 | 10 | 2 | ← 604 |
| 40-49 | 0 | 0 | 1 | ← 605 |
| 50-59 | 1 | 0 | 1 | ← 606 |
| 60-69 | 100 | 100 | 1 | ← 607 |
| 70-79 | 30 | 30 | 0 | ← 608 |
| 80-89 | 0 | 0 | 0 | ← 609 |
| 90-99 | 0 | 0 | 0 | ← 610 |
| 100-109 | 0 | 0 | 0 | ← 611 |
| 110-119 | 0 | 0 | 0 | ← 612 |

Figure 6

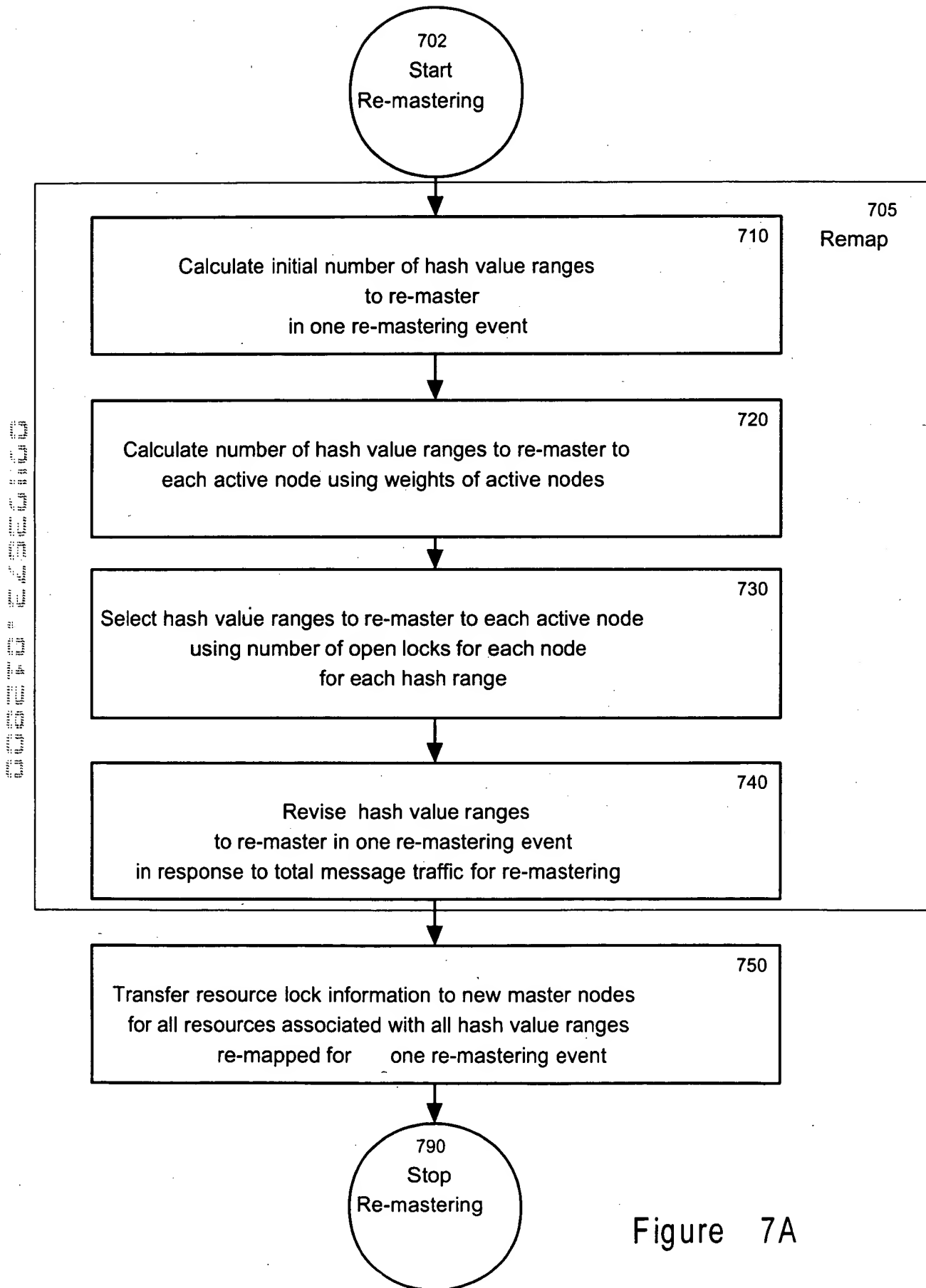


Figure 7A

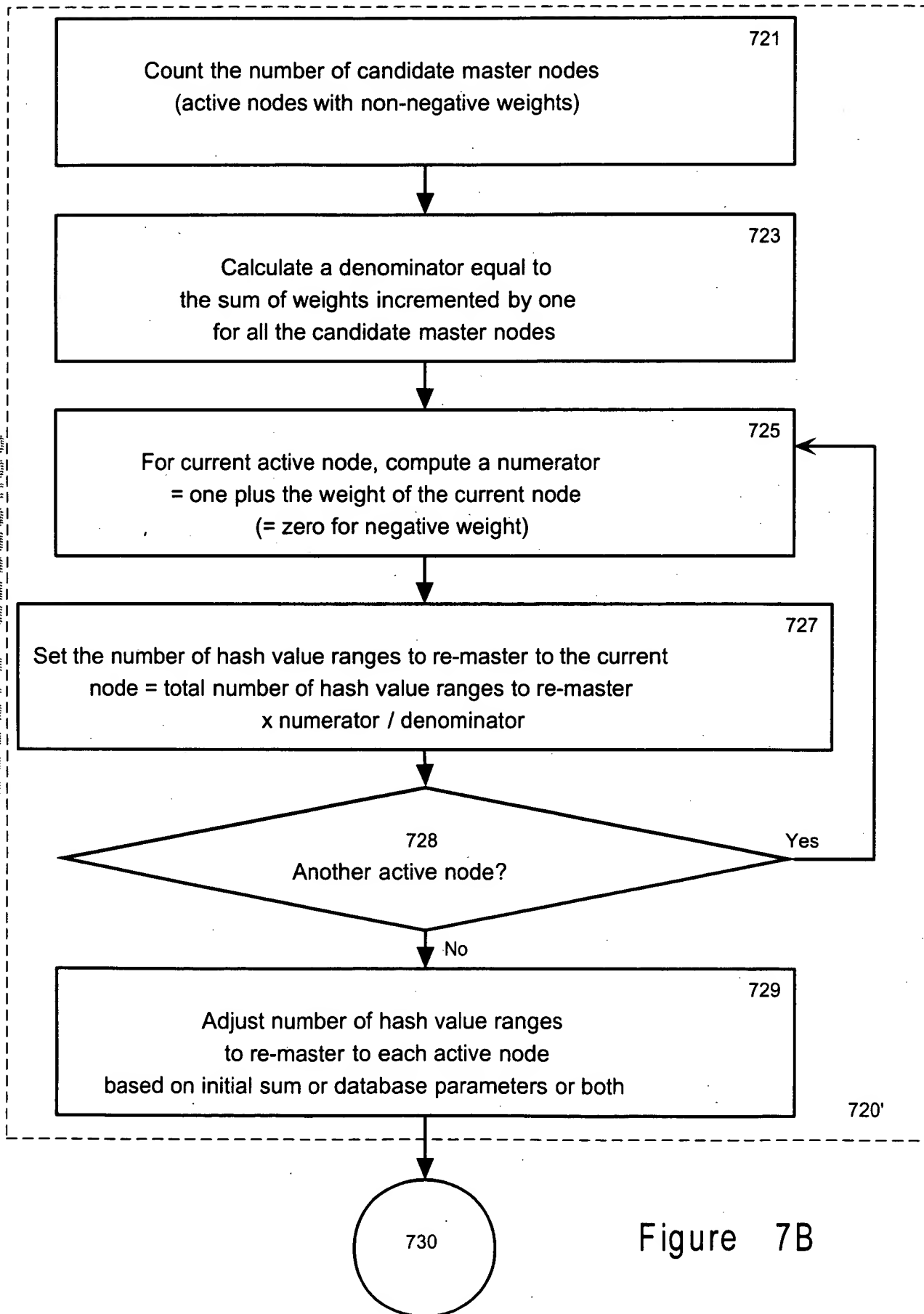


Figure 7B

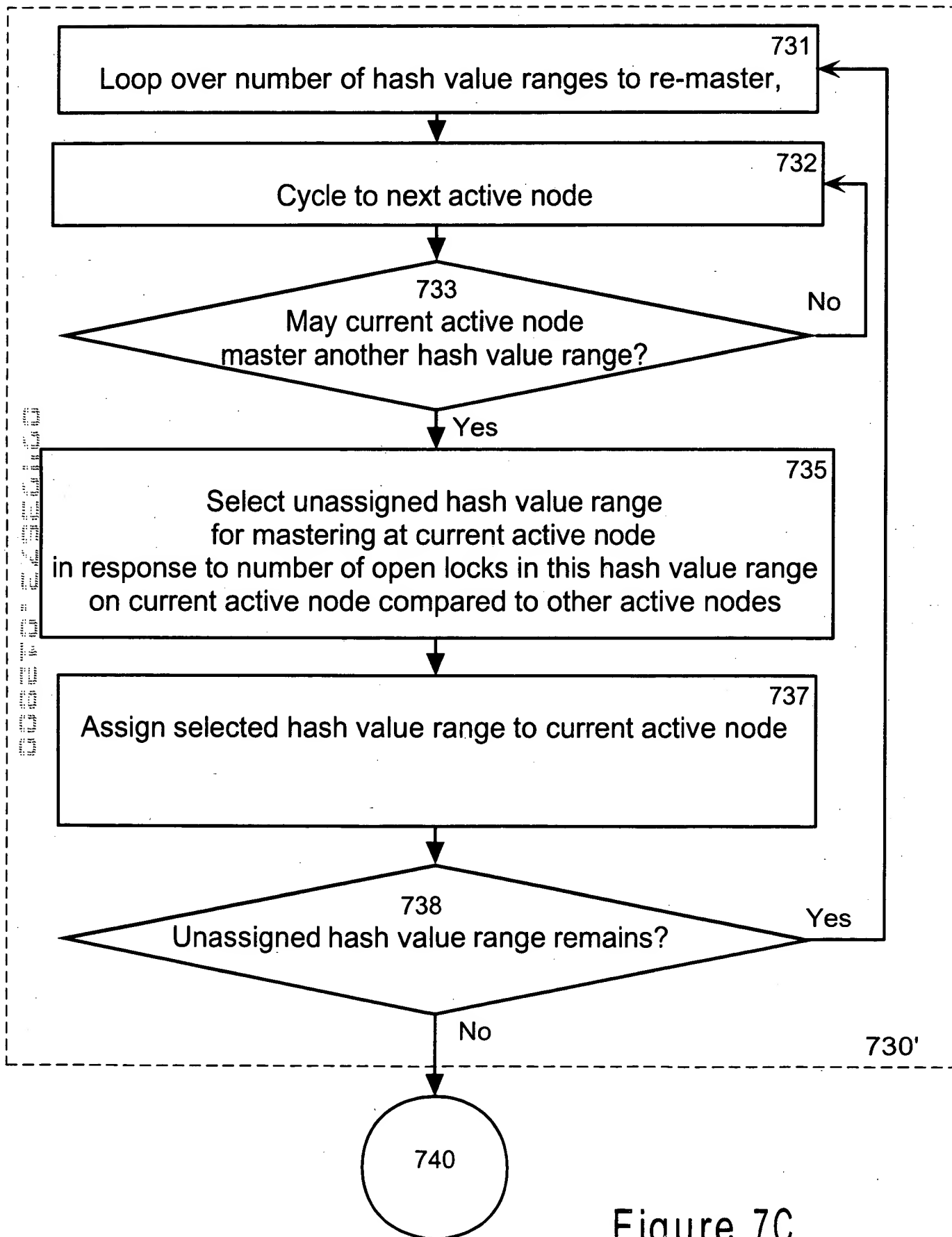


Figure 7C

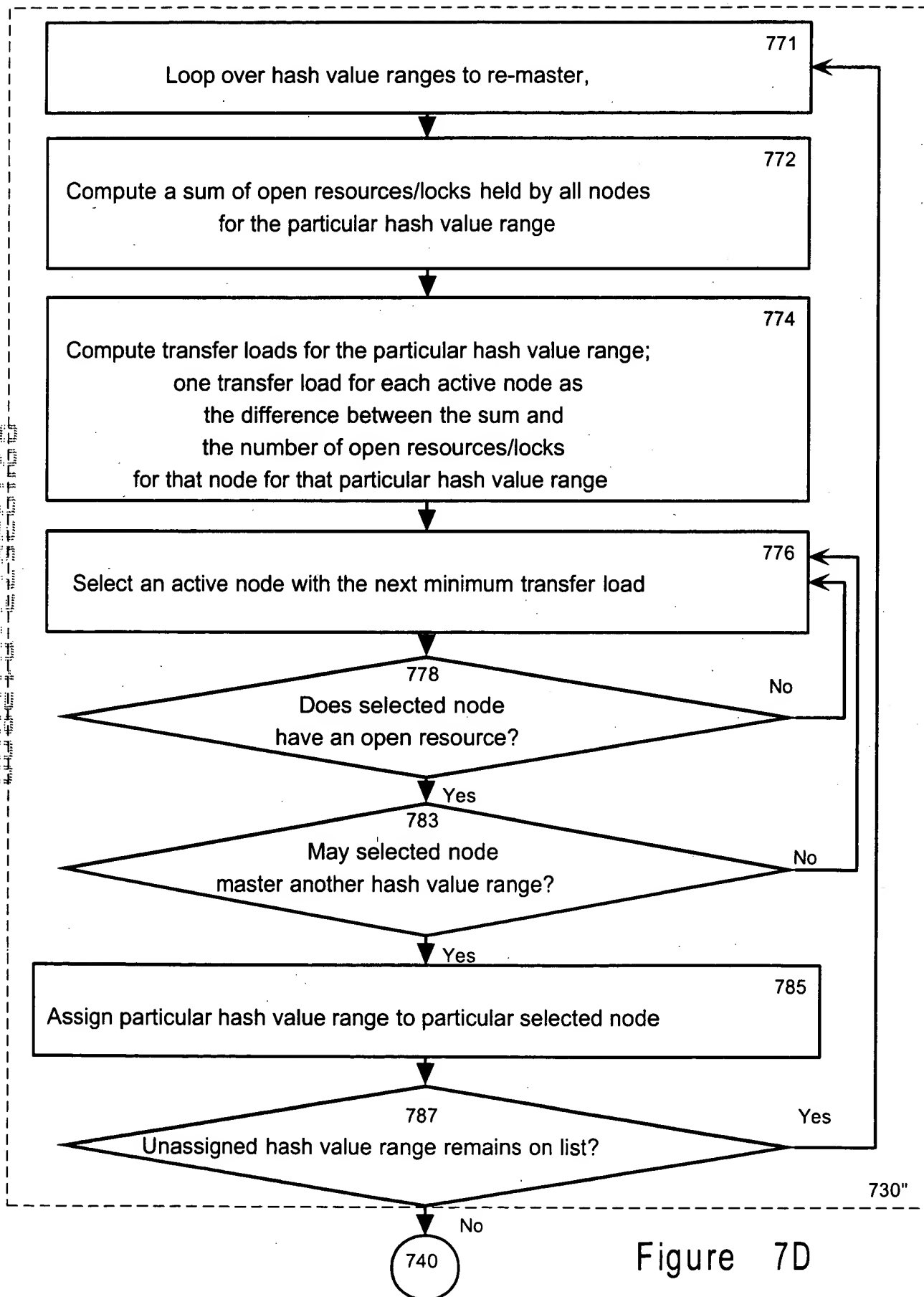


Figure 7D

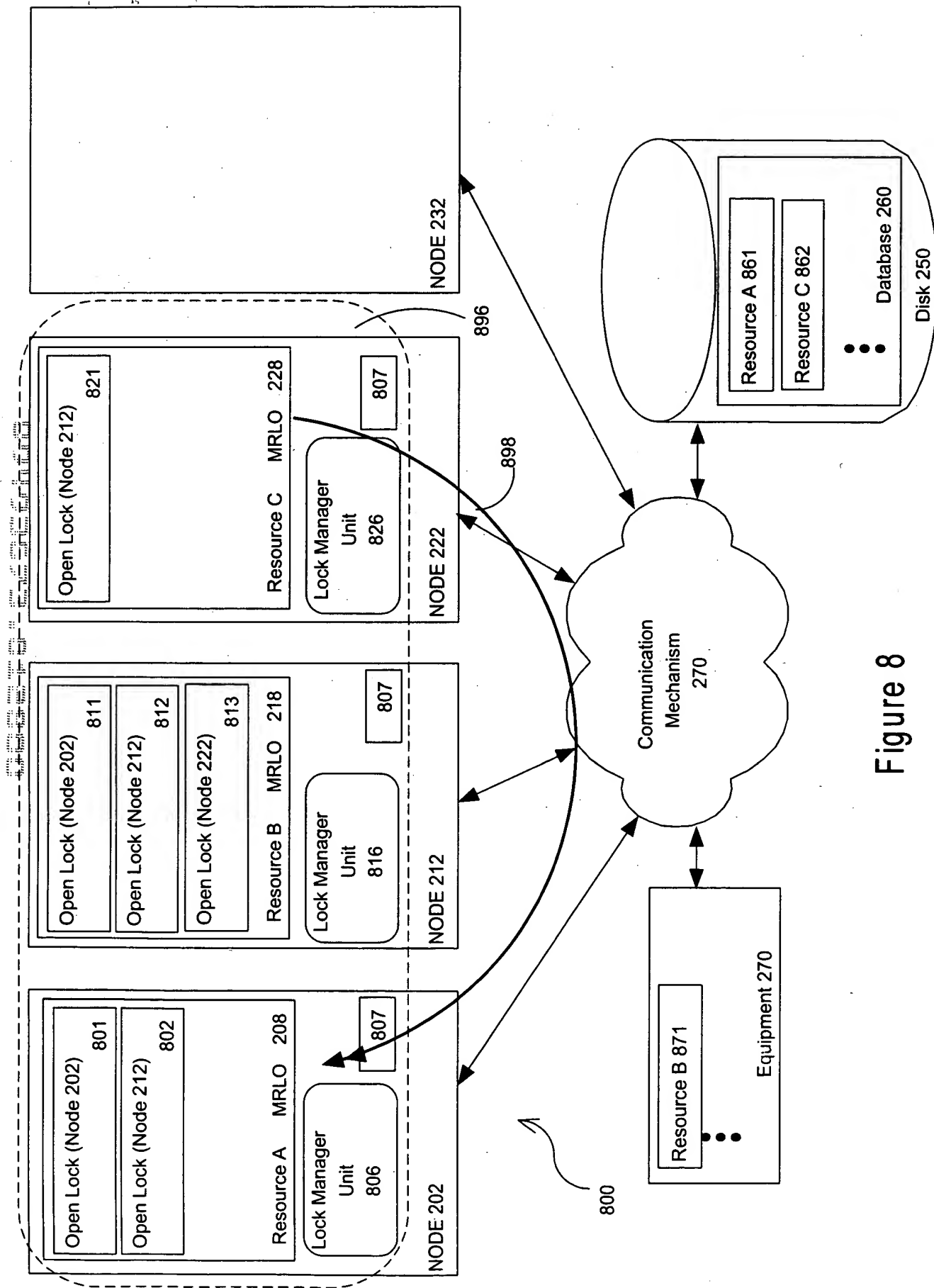


Figure 8

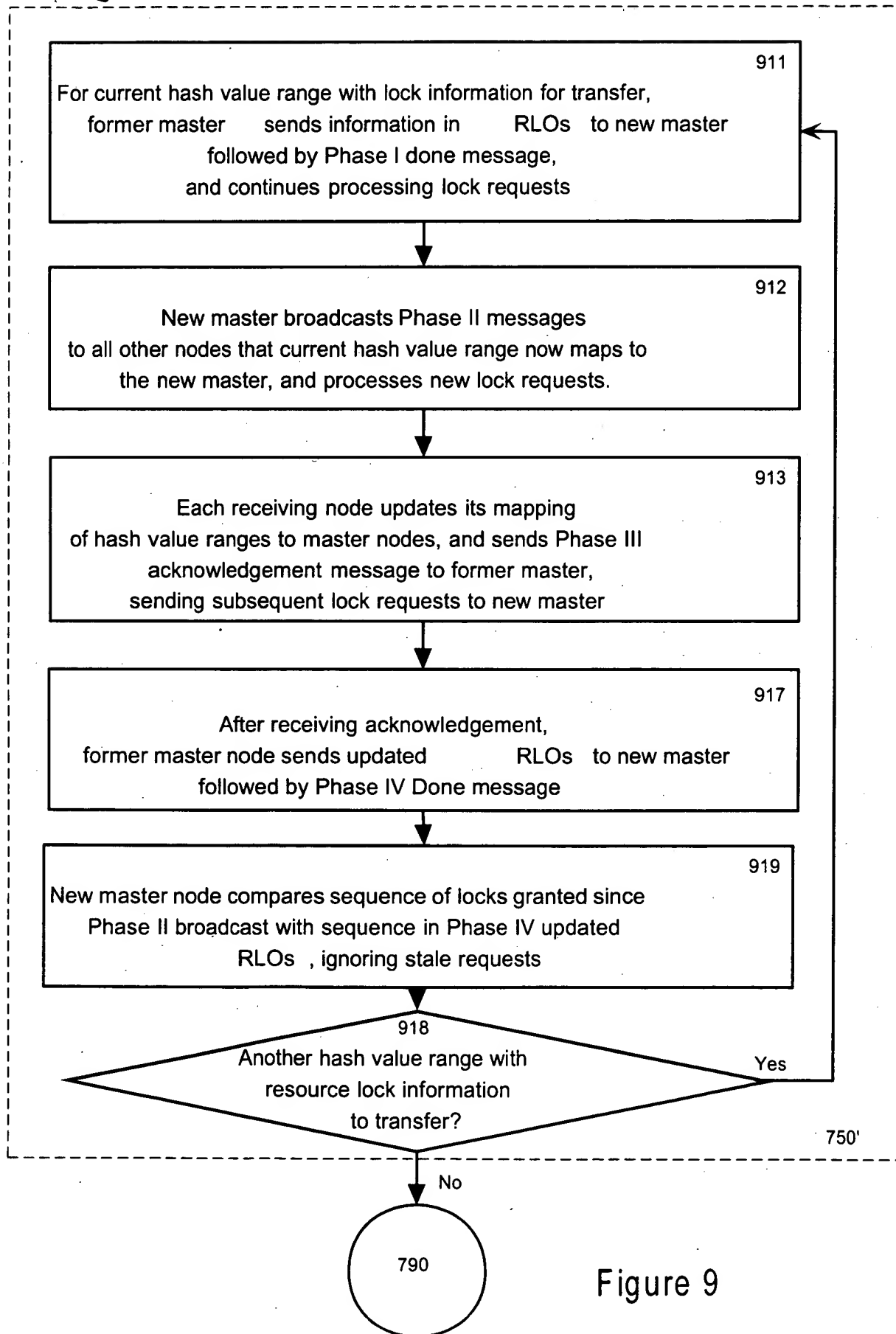


Figure 9

Figure 10A

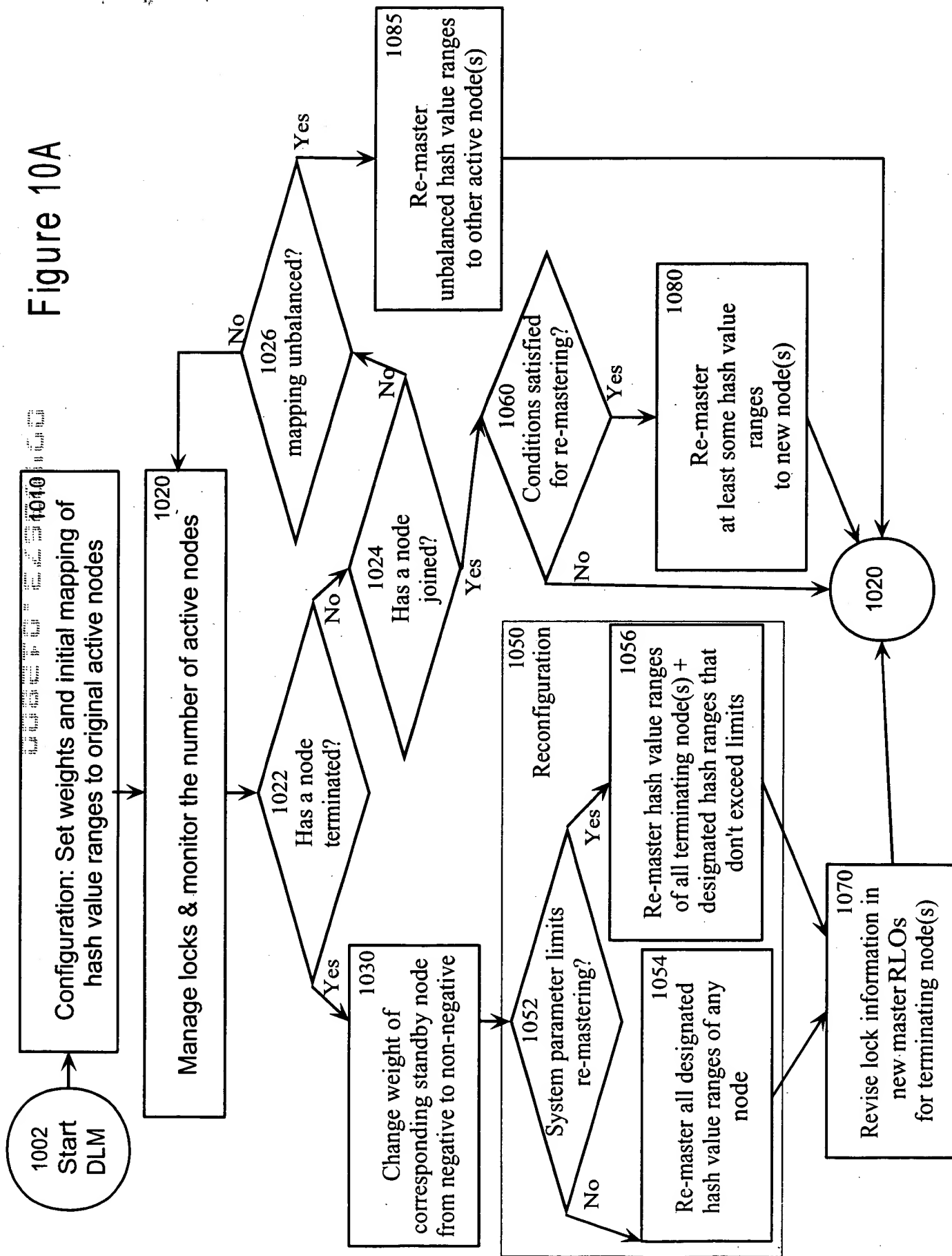
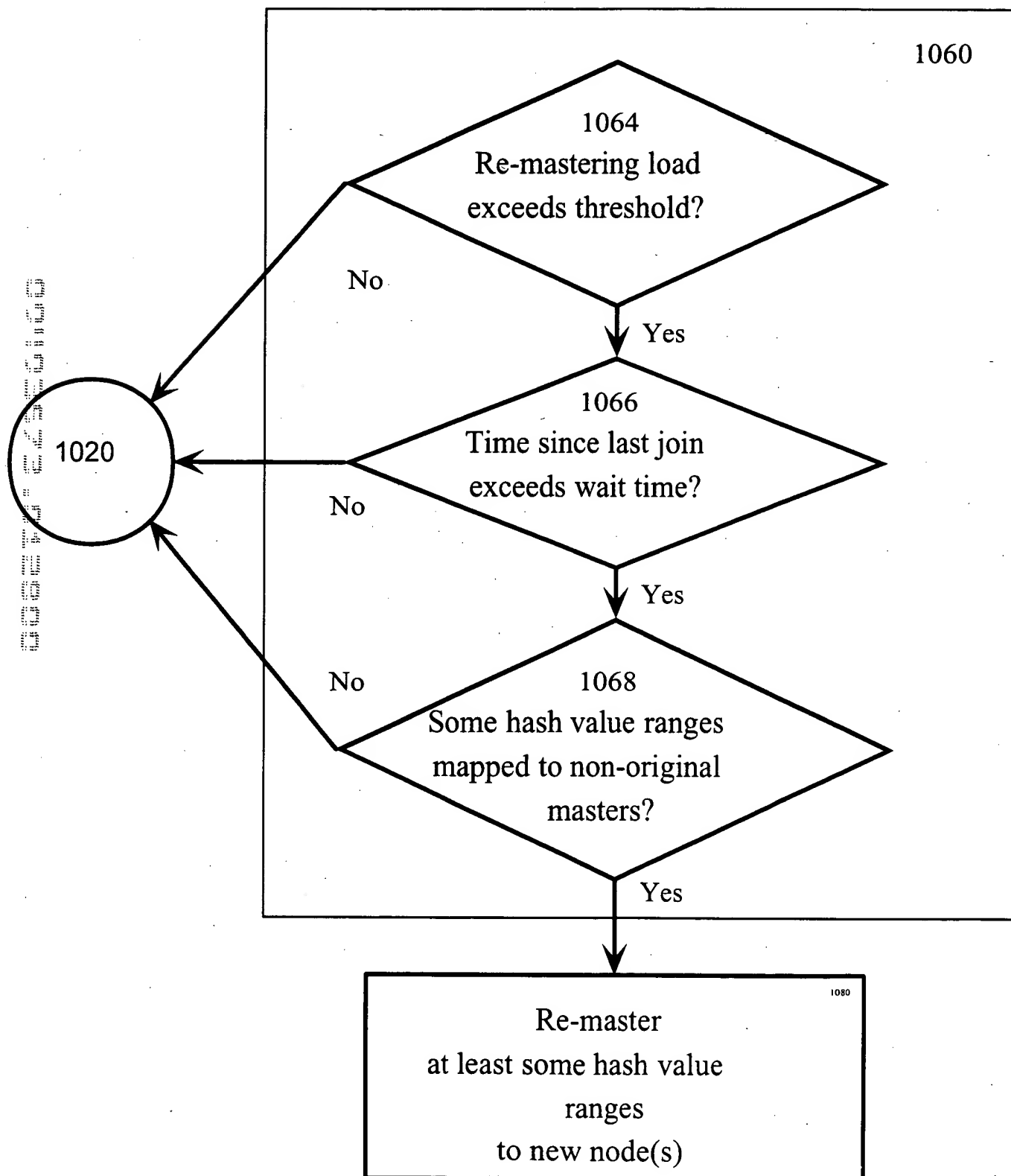


Figure 10B



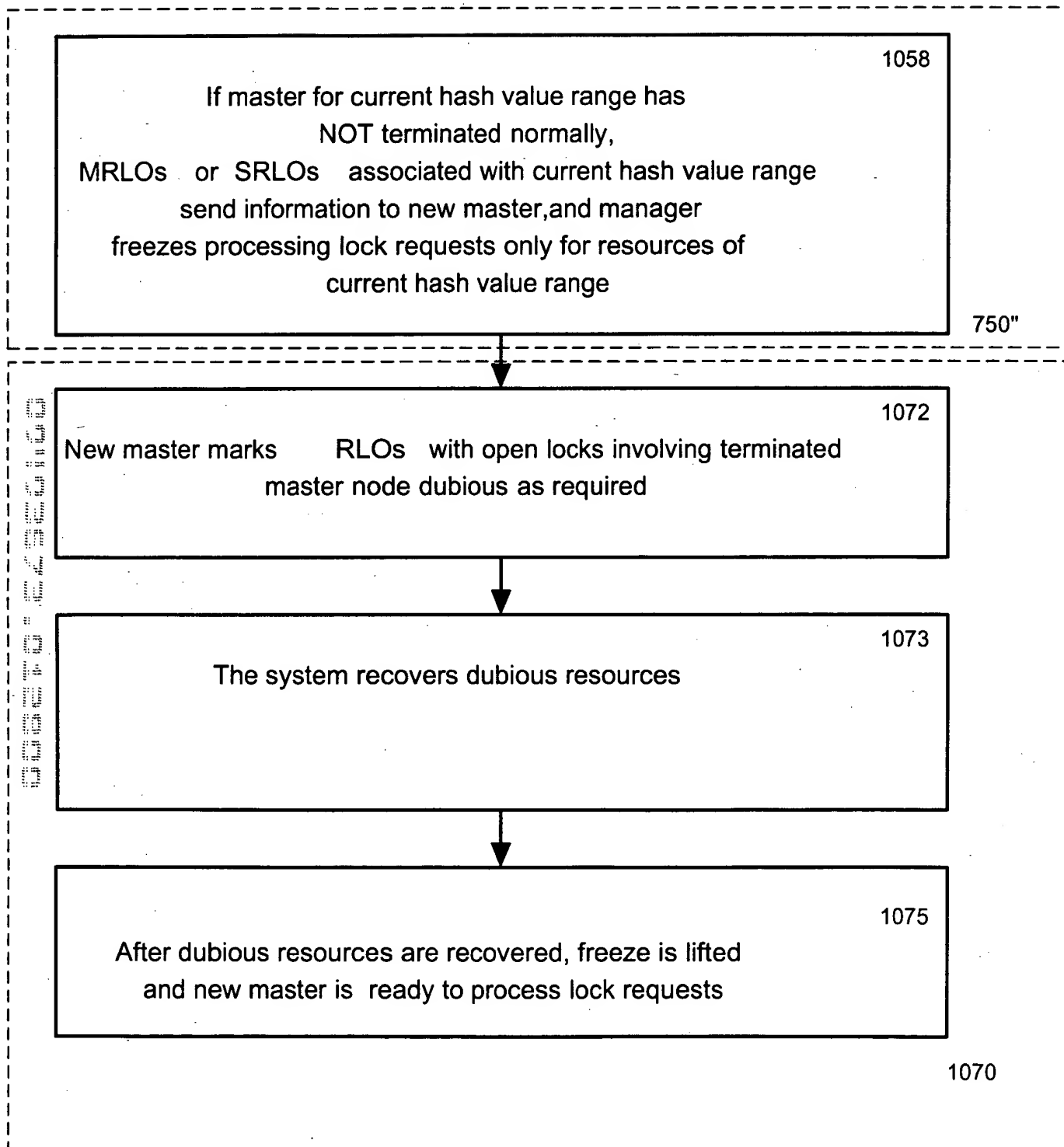


Figure 10C